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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION
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In the Matter of 1998 Biennial Regulatory Review -- Amendment of Parts 2, 25 and 68 of the Commission's Rules to Streamline Further the Equipment Authorization Process for Radio Frequency Equipment, Modify the Equipment Authorization Process for Telephone Terminal Equipment, Implement Mutual Recognition Agreements and Begin Implementation of the Global Mobile Personal Communications by Satellite (GMPCS) Arrangements	GEN Docket No. 98-68

COMMENTS

Aeronautical Radio, Inc. (ARINC), by its attorneys, hereby responds to the Commission's Notice of Proposed Rulemaking (NPRM) released May 18, 1998 (FCC 98-92),[1] concerning, *inter alia,* implementation of the Memorandum of Understanding as to Global Mobile Personal Communications by Satellite (GMPCS).

ARINC, in general, supports the Commission's proposals as to certification of mobile earth terminals (METs) in use with low-earth orbiting (LEO) mobile satellite systems (MSS).

[1] Summary, 63 Fed. Reg. 31685 (June 10, 1998).

ARINC and civil aviation have consistently supported Commission certification of equipment (formerly, type acceptance) that has the potential to interfere with safety services, and has also supported the out-of-band emission limits proposed by the FCC in this proceeding.

ARINC is the communications company of the air transport industry. For almost 70 years, it has been active in domestic and international spectrum matters that affect air navigation. The possibility of serious interference to the global navigation satellite system (GNSS), which today is comprised of the Russian Global Navigation Satellite System (GLONASS) and U.S. global positioning satellite (GPS) system, from METs operating in the adjacent band 1610-1626.5 MHz is well-established. ARINC has been actively seeking reasonable protection for the safety-of-life radionavigation satellite service from these METs beginning with the negotiated rulemaking in Docket No. 92-166. Indeed, ARINC has pending a petition for reconsideration of these rules to the extent that they do not now adequately protect GNSS.[2] The National Telecommunications and Information Administration (NTIA) essentially agrees with the position of ARINC and civil aviation and, in September 1997, submitted a petition for rulemaking offering, as a compromise, a transition to the protection levels required by aviation.[3] Aviation continues to urge that full protection be offered by LEO METs from the outset.

GNSS presents the world's aviation community with the increased precision as to position location needed to promote safety of aircraft movements and to assist in instrument landings. If GNSS is accorded appropriate protection from interference, this satellite-based

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2 *See* ARINC Petition for Reconsideration (CC Docket No. 92-166) filed April 11, 1996.

3 RM 9165.

navigation system will permit safer and more efficient aircraft operations in the United States and throughout the world. In order to achieve this goal, which we hope will bring a critically needed increase to the capacity of the national airspace, the portion of aeronautical radionavigation band from 1559-1605 MHz must be protected from out-of-band and spurious emissions from adjacent channel and other radio operations. Studies have shown that this limit must be at least -70 dBw/MHz for wideband emissions and -80 dBw/700 Hz for narrowband emissions throughout the band.[4]

In RM 9165, NTIA has proposed a compromise that would permit LEO METs an additional 6 dB of out-of-band and spurious emissions on frequencies above 1580.42 MHz until January 1, 2005, at which time all METs in use would have to conform to the required -70 dBW/MHz and -80 dBW/700 Hz limits throughout the band 1559-1605 MHz. This proposal raises a concern that large numbers of METs, exceeding the required suppression by as much as 6 dB, will be placed into service with little or no assurance that these interfering units will, in fact, cease operation by January 1, 2005. It is our understanding that the FCC is requiring that LEO METs authorized in the United States meet whatever limits are placed on this equipment by rulemaking to be initiated in response to RM 9165 or on reconsideration in CC Docket No. 92-166. However, experience has shown that once spectrum is polluted by excessive out-of-band emissions, especially from consumer products, it is very difficult to reclaim the spectrum in the period of time suggested by NTIA. Nonetheless, ARINC and the air transport industry can accept the position of NTIA, even though it may result in delays of needed improvements to air

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[4] *E.g.*, RTCA, Assessment of Radio Frequency Interference Relevant to the GNSS (DO-235, Jan. 27, 1997), App. F. *Cf.* Recommendation ITU-R M. 1343, Table 1A1 and 2A1 Note 4; European Testing and Standards (ETSI) Standard TBR-041.

navigation, as long as steps are taken today to ensure that GNSS will not be subject to interference in 2005.

Civil aviation is also troubled by the fact that some domestic or foreign-based LEO systems, their resellers, or their customers, could use METs that would cause interference in excess of the limits proposed by NTIA, notwithstanding the regulations to be adopted. The Commission has recognized that where safety services might be impacted by the failure of a transmitter to meet FCC technical requirements that some form of equipment certification is appropriate.[5] In all other mobile services, certification of the equipment is required to reduce the likelihood of interference.[6] This requirement also applies in services such as cellular and PCS where the mobile units are covered by a single blanket license, just as is the case with METs.[7] The satellite industry has never explained why METs should be exempt from this basic requirement that applies to all other mobiles.

In fact, the need for prior independent testing of METs is, if anything, more compelling than for other mobile services. Interference to GNSS from METs would be very difficult to track down. The LEO industry expects millions of units to be deployed. The out-of-band or spurious emissions emanating from the offending METs would be fairly low level and only intermittently

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5 *See* Notice of Proposed Rule Making, ET Docket No. 97-94, 12 FCC Rcd 8743, 8753 (1997).

6 *See* 47 C.F.R. §§ 22.377 (Public Mobile Services, including cellular), 24.51 (Personal Communications Service (PCS)), 26.51 (General Wireless Communications Service), 27.51 (Wireless Communications Service), 80.203 (Maritime Radio Services), 87.147 (Aviation Radio Services), 90.203 (Land Mobile Radio Services, including SMRS), and 95.603 (GMRS, R/C, CB, FRS, and LPRS).

7 *See* NPRM ¶ 42.

in use. The institution of prior equipment approval by the certification procedure, however, would reduce the possibility that inadequately designed or built METs would be released into service.

Therefore, ARINC urges that the FCC adopt its proposed Section 25.200 of the Rules and make compliance mandatory for all METs in use in the United States.

Respectfully submitted,

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